

Clinical trial for new innovative osteoarthritis drug

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Credit: Chokniti Khongchum from Pexels

The University of Liverpool, in partnership with AKL Research and Development Ltd, is to lead on a clinical trial to test a potential new drug treatment for osteoarthritis.

Osteoarthritis (OA) is the most common type of arthritis in the UK, affecting more than eight million people, and is the leading cause of joint pain and stiffness in older people.

As part of their research and development programme, AKL identifies promising phytochemicals, found in natural products, which are capable of being synthesized.

Trials have identified two molecules which act synergistically and have been brought together to create 'APPA', a patented drug.

Improved functionality

In a variety of pre-clinical animal testing trials, APPA has clearly demonstrated significant pain relief from OA, improved functionality and the slowing of cartilage destruction.

Having successfully passed preclinical toxicology studies, formal human studies can now start.

The clinical trial is due to commence shortly at the Liverpool Clinical Trials Unit (LCTU) led by rheumatologist Professor Robert Moots from the University's Institute of Ageing and Chronic Disease.

'Huge potential'

Professor Moots, said: "The severe pain from OA is usually managed with prescription drugs that are often not effective and that also, in many cases, induce unacceptable side effects. In many cases, major joint replacement surgery is needed to help deal with the pain. This is surely wrong.

"This drug has huge potential to provide an effective treatment for OA. A reliable and easy way to treat OA has clear potential to save large amounts of money for the NHS and greatly improve the lifestyle and health of patients.

"Working with research and development companies like AKL is crucial for the development and introduction of new treatments to benefit patients now and in future generations. We are excited to move this programme of trials forward."

'Holy Grail'

Research on how APPA affects human cells, especially activated neutrophils, is being led by Professor Steven Edwards at the University's Institute of Integrative Biology.

Professor Edwards, said: "Neutrophils are the most abundant type of white blood cells and form an essential part of our immune system. There is now considerable evidence to show that neutrophils are activated in inflammatory diseases. They are however a "two-edged sword": they are required to protect us from infections but their inappropriate activation can result in irreversible damage in inflammatory diseases.

"The 'holy grail' of anti-inflammatory targeting of neutrophils is specifically to block their tissue-damaging activities, but not compromise their ability to protect us. Work is ongoing but to date it appears that APPA does not target the host defence properties of neutrophils but does block their pro-inflammatory activities".

David Sharples, CEO, AKL, said: "Professor Moots is leading this important clinical trial and that, in conjunction with Professor Edwards' research on APPA's novel modes of action, should provide the robust

evidence we need to help bring this drug to market. There remains a high unmet need for an effective, well tolerated OA drug, so understandably we are very excited by APPA's prospects."

Provided by University of Liverpool

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